

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**1N-64W-19 ONION 1907 PAD**

**ONION 1907-07H**

**Plan A**

**Design #1**

## **Anticollision Summary Report**

**16 March, 2022**

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well ONION 1907-07H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 24' @ 5035.00usft (RIG)
<b>Reference Site:</b>	1N-64W-19 ONION 1907 PAD	<b>MD Reference:</b>	RKB = 24' @ 5035.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	ONION 1907-07H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	3.28 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Design #1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum centre distance of 1,500.00usft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.45 Sigma	<b>Casing Method:</b>	Added to Error Values

<b>Survey Tool Program</b>	<b>Date</b>	3/16/2022			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	2,156.00	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination	
2,156.00	20,255.95	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination	

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (usft)</b>	<b>Offset Measured Depth (usft)</b>	<b>Distance Between Centres (usft)</b>	<b>Distance Between Ellipses (usft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
1N-64W-06 Offsets Incomplete						
FLANIGAN 1A-6H - CPR PR Well - Actual Cathedral Sur						Out of range
FLANIGAN 1B-6H - CPR PR Well - Actual Cathedral Sur	20,255.95	11,455.00	1,107.38	824.57	3.916	CC, ES, SF
FLANIGAN 1C-6H - CPR SI Well - Actual Cathedral Surv	20,255.95	11,630.00	884.31	802.45	10.802	CC, ES, SF
FLANIGAN 1D-6H - CPR SI Well - Actual Cathedral Surv	20,255.95	11,485.00	1,147.68	880.55	4.296	CC, ES, SF
FLANIGAN 2A-6H - CPR SI Well - Actual Cathedral Surv						Out of range
FLANIGAN 2B-6H - CPR PR Well - Actual Cathedral Sur						Out of range
1N-64W-07 Offsets						
UPRR 52 PAN AM #1 - AMOCO DA Well - No Surveys	16,079.30	7,230.00	768.97	299.78	1.639	CC
UPRR 52 PAN AM #1 - AMOCO DA Well - No Surveys	16,100.00	7,230.00	769.25	298.70	1.635	ES, SF
1N-64W-19 BERG 1930 PAD						
BERG 1930-01H - Wellbore #1 - Design #1	1,249.94	1,255.94	165.48	152.83	13.080	CC
BERG 1930-01H - Wellbore #1 - Design #1	1,300.00	1,305.35	165.61	152.37	12.507	ES
BERG 1930-01H - Wellbore #1 - Design #1	1,700.00	1,696.42	183.54	165.68	10.278	SF
BERG 1930-02H - Wellbore #1 - Design #1	1,436.33	1,444.08	139.68	124.96	9.487	CC
BERG 1930-02H - Wellbore #1 - Design #1	1,500.00	1,507.12	139.97	124.45	9.020	ES
BERG 1930-02H - Wellbore #1 - Design #1	1,800.00	1,804.12	148.80	130.33	8.055	SF
BERG 1930-03H - Wellbore #1 - Design #1	1,983.88	1,993.94	100.78	80.96	5.085	CC
BERG 1930-03H - Wellbore #1 - Design #1	2,000.00	2,010.01	100.79	80.88	5.063	ES
BERG 1930-03H - Wellbore #1 - Design #1	2,100.00	2,109.62	101.29	80.90	4.968	SF
BERG 1930-04H - Wellbore #1 - Design #1	2,500.00	2,511.70	29.57	9.73	1.490	Level 3, ES
BERG 1930-04H - Wellbore #1 - Design #1	2,555.13	2,566.70	29.31	10.54	1.562	CC
BERG 1930-04H - Wellbore #1 - Design #1	7,200.00	7,270.90	75.88	21.04	1.384	Level 3, SF
BERG 1930-05H - Wellbore #1 - Design #1	1,963.85	1,975.99	49.64	35.73	3.569	CC, ES, SF
BERG 1930-06H - Wellbore #1 - Design #1	1,236.54	1,249.85	78.29	67.79	7.452	CC
BERG 1930-06H - Wellbore #1 - Design #1	1,240.00	1,253.28	78.30	67.77	7.441	ES
BERG 1930-06H - Wellbore #1 - Design #1	1,400.00	1,411.99	81.12	69.92	7.242	SF

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<b>Reference Site:</b>	1N-64W-19 ONION 1907 PAD	<b>MD Reference:</b>	RKB = 24' @ 5035.00usft (RIG)
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<b>Reference Well:</b>	ONION 1907-07H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	3.28 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
1N-64W-19 GOURD 1930 PAD						
GOURD 1930-01H - Wellbore #1 - Design #1	350.06	351.13	236.38	228.67	30.647	CC
GOURD 1930-01H - Wellbore #1 - Design #1	449.00	449.71	236.48	228.62	30.060	ES
GOURD 1930-01H - Wellbore #1 - Design #1	700.00	695.37	249.84	241.34	29.384	SF
GOURD 1930-02H - Wellbore #1 - Design #1	481.27	484.76	223.23	215.30	28.174	CC, ES
GOURD 1930-02H - Wellbore #1 - Design #1	700.00	702.12	231.69	223.21	27.335	SF
GOURD 1930-03H - Wellbore #1 - Design #1	540.70	548.13	210.51	202.48	26.185	CC, ES
GOURD 1930-03H - Wellbore #1 - Design #1	800.00	808.25	221.07	212.28	25.138	SF
GOURD 1930-04H - Wellbore #1 - Design #1	641.71	655.71	198.41	190.14	24.009	CC, ES
GOURD 1930-04H - Wellbore #1 - Design #1	900.00	915.63	208.04	198.93	22.828	SF
GOURD 1930-05H - Wellbore #1 - Design #1	782.44	805.33	170.38	161.69	19.620	CC, ES
GOURD 1930-05H - Wellbore #1 - Design #1	1,000.00	1,020.91	180.67	171.10	18.887	SF
GOURD 1930-06H - Wellbore #1 - Design #1	882.81	909.49	143.21	134.20	15.891	CC
GOURD 1930-06H - Wellbore #1 - Design #1	900.00	926.59	143.27	134.19	15.778	ES
GOURD 1930-06H - Wellbore #1 - Design #1	1,100.00	1,125.40	152.94	142.94	15.290	SF
1N-64W-19 Offsets						
STEVENS #1 - KPK P/A Well - No Surveys	7,200.69	6,907.95	1,284.92	1,006.74	4.619	CC
STEVENS #1 - KPK P/A Well - No Surveys	7,250.00	6,947.92	1,286.08	1,005.45	4.583	ES
STEVENS #1 - KPK P/A Well - No Surveys	7,400.00	7,055.37	1,305.27	1,017.25	4.532	SF
WEIMER #1 - Petro-American Energy D/A Well - No Surv	8,166.27	7,202.00	879.99	584.90	2.982	CC
WEIMER #1 - Petro-American Energy D/A Well - No Surv	8,200.00	7,202.00	880.84	584.03	2.968	ES
WEIMER #1 - Petro-American Energy D/A Well - No Surv	8,300.00	7,202.00	893.17	591.49	2.961	SF
1N-64W-19 ONION 1907 PAD						
ONION 1907-01H - Plan A - Design #1	210.00	210.00	95.99	88.41	12.673	CC, ES
ONION 1907-01H - Plan A - Design #1	300.00	298.12	96.60	88.95	12.627	SF
ONION 1907-02H - Plan A - Design #1	200.00	200.00	80.00	72.43	10.572	CC, ES, SF
ONION 1907-03H - Plan A - Design #1	449.00	449.00	63.98	56.12	8.140	CC, ES
ONION 1907-03H - Plan A - Design #1	500.00	500.00	64.42	56.47	8.103	SF
ONION 1907-04H - Plan A - Design #1	472.96	473.64	45.39	37.48	5.738	CC, ES
ONION 1907-04H - Plan A - Design #1	500.00	500.62	45.53	37.57	5.719	SF
ONION 1907-05H - Plan A - Design #1	449.00	449.00	32.01	24.14	4.072	CC, ES
ONION 1907-05H - Plan A - Design #1	20,255.95	20,077.54	1,032.17	408.01	1.654	SF
ONION 1907-06H - Plan A - Design #1	449.00	449.00	15.99	8.13	2.034	CC
ONION 1907-06H - Plan A - Design #1	20,255.95	20,157.36	516.08	-107.97	0.827	Level 1, ES, SF
ONION 1907-08H - Plan A - Design #1	316.55	316.55	16.02	8.35	2.088	CC
ONION 1907-08H - Plan A - Design #1	20,255.95	20,424.66	516.08	-107.75	0.827	Level 1, ES, SF
ONION 1907-09H - Plan A - Design #1	313.43	313.43	32.01	24.34	4.174	CC
ONION 1907-09H - Plan A - Design #1	400.00	399.90	32.02	24.24	4.115	ES
ONION 1907-09H - Plan A - Design #1	20,255.95	20,614.31	1,032.14	408.35	1.655	SF

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<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB = 24' @ 5035.00usft (RIG)

Offset Depths are relative to Offset Datum

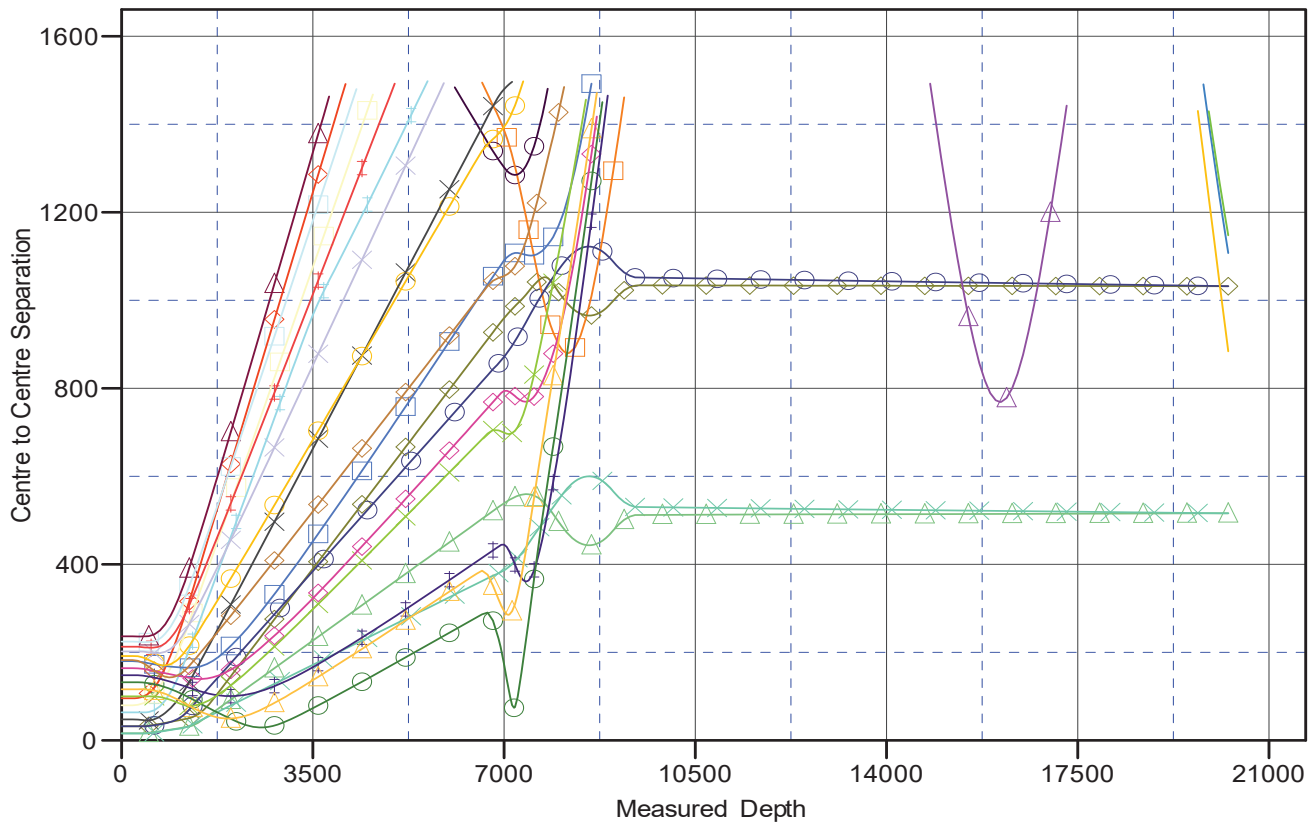
Central Meridian is -105.500000

Coordinates are relative to: ONION 1907-07H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°

### Ladder Plot



#### LEGEND

WEIMER #1 Petro-American Energy/DIA Well, No Surveys V0	ONION 190706H, Plan A, Design #1 V0	BERG 193006H, Wellbore #1, Design #1 V0
STEVENS #1, KPR P/A Well, No Surveys V0	UPRR S2 PAN AM #1, AMOCO DAWell, No Surveys V0	BERG 193005H, Wellbore #1, Design #1 V0
ONION 190709H, Plan A, Design #1 V0	FLANIGAN1B-6H, CPR PR Well, Actual Cathedral Surveys V0	GOURD 1930-03H, Wellbore #1, Design #1 V0
ONION 190704H, Plan A, Design #1 V0	FLANIGAN1C-6H, CPR SI Well, Actual Cathedral Surveys V0	GOURD 1930-02H, Wellbore #1, Design #1 V0
ONION 190708H, Plan A, Design #1 V0	FLANIGAN1D-6H, CPR SI Well, Actual Cathedral Surveys V0	GOURD 1930-05H, Wellbore #1, Design #1 V0
ONION 190703H, Plan A, Design #1 V0	BERG 1930-03H, Wellbore #1, Design #1 V0	GOURD 1930-06H, Wellbore #1, Design #1 V0
ONION 190705H, Plan A, Design #1 V0	BERG 1930-01H, Wellbore #1, Design #1 V0	GOURD 1930-04H, Wellbore #1, Design #1 V0
ONION 190701H, Plan A, Design #1 V0	BERG 1930-04H, Wellbore #1, Design #1 V0	GOURD 1930-01H, Wellbore #1, Design #1 V0
ONION 190702H, Plan A, Design #1 V0	BERG 1930-02H, Wellbore #1, Design #1 V0	

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<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB = 24' @ 5035.00usft (RIG)

Offset Depths are relative to Offset Datum

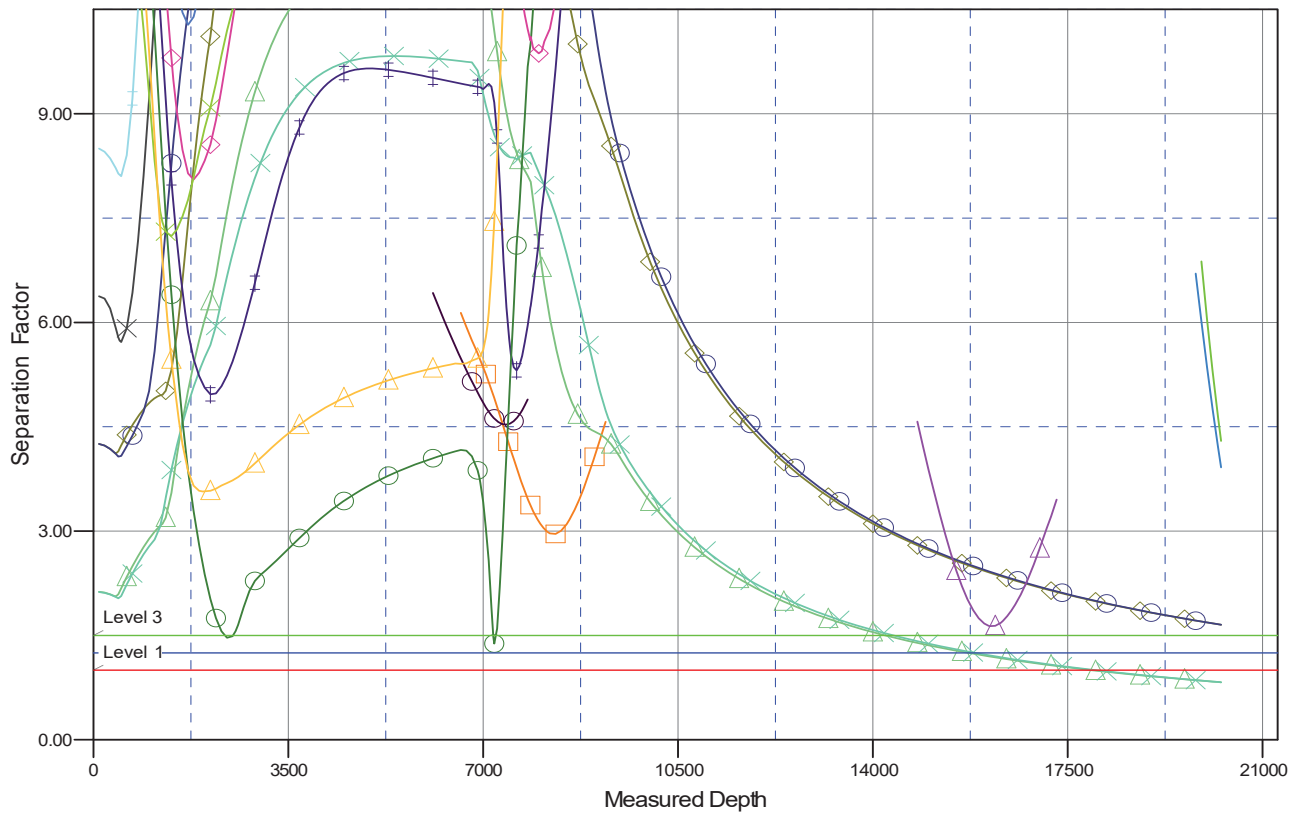
Central Meridian is -105.500000

Coordinates are relative to: ONION 1907-07H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.58°

### Separation Factor Plot



#### LEGEND

WEIMER #1 Petro-American Energy/DIA Well, No Surveys V0	ONION 190706H, Plan A, Design #1 V0	BERG 193006H, Wellbore #1, Design #1 V0
STEVENS #1, KPK P/A Well, No Surveys V0	UPRR S2 PAN AM #1, AMOCO DAWell, No Surveys V0	BERG 193005H, Wellbore #1, Design #1 V0
ONION 190709H, Plan A, Design #1 V0	FLANIGAN 1B-6H, CPR PR Well, Actual Cathedral Surveys V0	GOURD 1930-03H, Wellbore #1, Design #1 V0
ONION 190704H, Plan A, Design #1 V0	FLANIGAN 1C-6H, CPR SI Well, Actual Cathedral Surveys V0	GOURD 1930-02H, Wellbore #1, Design #1 V0
ONION 190708H, Plan A, Design #1 V0	FLANIGAN 1D-6H, CPR SI Well, Actual Cathedral Surveys V0	GOURD 1930-05H, Wellbore #1, Design #1 V0
ONION 190709H, Plan A, Design #1 V0	BERG 193003H, Wellbore #1, Design #1 V0	GOURD 1930-06H, Wellbore #1, Design #1 V0
ONION 190705H, Plan A, Design #1 V0	BERG 193001H, Wellbore #1, Design #1 V0	GOURD 1930-04H, Wellbore #1, Design #1 V0
ONION 190701H, Plan A, Design #1 V0	BERG 193004H, Wellbore #1, Design #1 V0	GOURD 1930-01H, Wellbore #1, Design #1 V0
ONION 190702H, Plan A, Design #1 V0	BERG 193002H, Wellbore #1, Design #1 V0	